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BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			EXAMINER BEHNCKE, CHRISTINE M	
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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

MAILED

SEP 20 2007

Application Number: 10/064,894
Filing Date: August 27, 2002
Appellant(s): RAMASWAMY ET AL.

GROUP 3600

John R. Buser
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9 August 2007 appealing from the
Office action mailed 13 December 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,464,026	Horsley et al.	10-2002
2002/0065589	Ostberg et al.	05-2002
6,334,498	Morisawa et al.	01-2002
6,424,157	Gollomp et al.	07-2002

6,236,909

Colson et al.

05-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 38 and 39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Claims 38 and 39 include the limitation: "wherein each control portion may be removed from the controller without disrupting operations of the other control portions". However, the original disclosure only supports removable control portions, which may be replaced by removing a certain portion and installing a replacement portion ([0026]). Nowhere in the original disclosure is it described that a control portion may be removed, and not further replaced, from the controller without disrupting operations of the other portions. The disclosure describes the opposite; since the disclosure describes the control portions as integrated and wherein one controller affects the others ([0028]), removing a control portion without a replacement will cause great disruption to the described system.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19-21, 23-25, 27, 28, 30, 34, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Horsley et al., US 6,464,026.

(Claim 19) Horsley et al. discloses a vehicle system controller for a vehicle comprising: a vehicle mode control portion (control system B, column 6, lines 28-45); an output torque requestor control portion (control system E, column 4, lines 45-53); a battery management control portion (EMG controller 42, column 5, lines 11-31 and figure 10); a driver information control portion (figure 12, column 13, 25-53); an energy management control portion (control system E, column 4, lines 45-53); a brake system control portion (energy management system 40, column 6, lines 9-27); an engine

start/stop control portion (control system B, column 6, lines 46-64); and a torque estimation control portion (control system B, column 6, lines 46-64).

(Claim 20) Horsley et al. further discloses wherein the vehicle mode control portion determines an operating mode for the vehicle and communicates the operating mode of the vehicle to the other control portions so that the other control portions may function according to the current vehicle mode (column 6, line 28-column 7, line 9).

(Claim 21) Horsley et al. further disclose wherein the vehicle mode control portion determines faults prior to starting and stopping the vehicle and during vehicle operation in order to insure the other control portions respond to the fault before proceeding (figure 10, column 12, lines 5-34).

(Claim 23) Horsley et al. further discloses wherein the output torque requestor control portion receives and handles all torque commands from requesting devices within the vehicle and determines a final wheel torque that powertrain and regenerative braking systems must produce (figure 4, column 4, lines 45-53, column 5, line 45-column 6, line 27).

(Claim 24) Horsley et al. further discloses wherein the output torque requestor control portion combines driver demands from accelerator and brake pedals and arbitrates requests from cruise control, traction control, interactive vehicle dynamics, and vehicle speed limiting systems when determining the final wheel torque (column 7, lines 10-40, column 8, lines 19-60, and column 10, lines 1-17).

(Claim 25) Horsley et al. further discloses wherein the output torque requestor control portion divides the final wheel torque between vehicle powertrain and brake

assemblies and issues corresponding commands to an engine controller control, transaxle controller and brake controller (column 4, lines 45-53).

(**Claim 27**) Horsley et al. further discloses wherein the battery management control portion reads and processes discharge/charge power limits from a battery controller and monitors a battery for faults and communicates this information to the other control portions (column 2, lines 35-60, figures 10 and 11).

(**Claim 28**) Horsley et al. further discloses wherein the driver information control portion receives signals from vehicle sensors and controllers and calculates vehicle operating data that is conveyed to the driver (figure 12, column 13, 25-53).

(**Claim 30**) Horsley et al. further discloses wherein the energy management control portion controls power flow between an engine, motor, generator, battery, and wheels (column 4, lines 45-53).

(**Claim 34**) Horsley et al. further discloses wherein the engine start/stop control portion contains logical conditions used to decide whether to turn on/off the engine or, if already "on", whether to keep the engine "running" (column 6, lines 46-64).

(**Claim 36**) Horsley et al. further discloses wherein the torque estimation control portion estimates torque produced by an engine and transaxle (column 10, lines 1-17 and lines 45-53).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 22, 26, 31, 33, 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horsley et al. in view of Ostberg et al., US 2002/0065589.

Horsley et al. discloses a vehicle mode control to adjust the operating strategy in cases of emission restriction, torque demand, and etc. Horsley et al. does not explicitly disclose selecting a limited operating strategy with which to operate the remaining functional powertrain components. However, Ostberg et al. teaches monitoring the torque and functionality of powertrain components and selecting a limited operating strategy to operate remaining functional powertrain components or shuts down the vehicle when a fault is detected ([0065]-[0066]). It would have been obvious to one of ordinary skill in the automotive art to combine the teachings of Ostberg et al. with the system of Horsley et al. because the reconfiguration of operation strategy increases the safety of the vehicle by allowing the driver to "limp" home or to help ([0066]).

Horsley et al. discloses a battery management control portion that monitors battery temperature, voltage, and controls the operations of the batteries based upon the vehicle mode signals received (column 10, lines 1-53). Horsley et al. does not explicitly disclose controlling the opening/closing of contactors in a battery pack. However, Ostberg et al. teaches a battery management controller that interfaces with a battery controller and controls opening and closing of contactors in a battery pack ([0055]-[0057]). It would have been obvious to one of ordinary skill in the automotive art at the time of the invention to combine the controller of Horsley et al. with the teachings of Ostberg et al. because as Ostberg et al. suggests the control of the contactors and

breakers of the battery packs is the most efficient and well-known method of controlling voltage flow to and from the batteries.

Horsley et al. further discloses a brake system controlling regenerative braking of a parallel hybrid vehicle, and does not disclose controlling the regenerative braking based on whether the braking is for series regenerative braking or parallel regenerative braking. However, Ostberg et al. teaches a well known hybrid configuration includes a power-split hybrid propulsion system, wherein the controllers control the vehicle functions including the regenerative braking control process based on whether a series or parallel regenerative braking is selected ([0005] and [0064]-[0065]). It would have been obvious to one of ordinary skill in the automotive art to combine the teachings of Ostberg et al. with the system of Horsley et al. because as Ostberg et al. suggests the power-split hybrid control allows for the most versatility of the hybrid and the greatest efficiency ([0008]-[0018]).

Horsley et al. discloses a control portion controlling the starting/stopping of the vehicle engine but does not explicitly disclose coordinating timing and operation of the engine, coordinating engine and transaxle controllers to minimize noise, vibrations, "harshness", and emissions. However, Ostberg et al. teaches controlling the engine starting/stopping timing and coordination with the transaxle controller in order to minimize undesirable noise, vibrations, "harshness" and emissions ([0022], [0026], [0061]-[0066]).

Ostberg et al. further teaches wherein a torque estimation control portion receives torque estimates from an engine controller and transaxle controller and

compares the engine controller estimate to the transaxle controller estimate such that if the estimates vary beyond a certain threshold value, the torques estimation control portion notifies portion the vehicle mode control portion of a potential fault condition ([0060]-[0066]). It would have been obvious to one of ordinary skill in the art to combine the teachings of Ostberg et al. with the system of Horsley et al. because as Ostberg et al. suggests, the monitoring of torques estimates from the engine and transaxle controllers improve vehicle efficiency and safety by determining and monitoring torque limitations of the individual components and adjusting the vehicle control to allow the vehicle to "limp" home in case of fault ([0065]-[0066]).

Claim Rejections - 35 USC § 103

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horsley et al. in view of Ostberg et al. as applied to claim 31 above, and further in view of Morisawa et al., US 6,334,498.

Neither Horsley et al. nor Ostberg et al. explicitly disclose wherein is regenerative braking is not available then engine, output shaft, gear set and drive train is used to brake the vehicle. However, Morisawa et al. teaches it was well known in the automotive art to use engine braking capabilities in a hybrid vehicle when the regenerative braking is not enough or not available to suppress vehicle speed (column 11, lines 29-64). Morisawa et al. suggests this is an efficient and safe method of braking the vehicle and improve braking performance and drivability.

Claim Rejections - 35 USC § 103

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horsley et al. in view of Gollomp et al., US 6,424,157.

Horsley et al. discloses a driver information control portion that receives signals from the vehicle systems and conveys data to the driver (column 6, lines 9-45); but does not explicitly disclose conveying vehicle speed, battery charge, and battery available power. However, Gollomp et al. teaches a system for monitoring a hybrid vehicle battery, which includes receiving information regarding the battery and conveying data associated with vehicle speed, battery state of charge, and available battery power to an instrument panel or other display (column 3, lines 58-column 4, line 51). Gollomp et al. teaches it would have been obvious to one of ordinary skill in the art at the time of the invention to display monitored battery conditions to a driver of a hybrid vehicle in order to increase the life of the battery and efficiency of the vehicle with proper monitoring and warnings for possible faults (column 5, lines 3-21).

Claim Rejections - 35 USC § 103

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horsley et al. in view of Colson et al., US 6,236,909.

Horsley et al. discloses the vehicle system controller for a vehicle as applied to claim 1, but does not disclose wherein each control portion may be removed and replaced from the controller without disrupting operations of the other control portions. However, Colson et al. teaches a modular vehicle system controller, wherein each respective software control portion corresponds to a vehicle drive system functionality and may be changed by removing one or more of the integrated software control

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portions and replacing it with a substitute control portion without disrupting operations of the other control portions (column 1, lines 16-27, column 5, lines 50-65 and Figures 7a-c). It would have been obvious to one of ordinary skill in the automotive art to combine the modular vehicle system of Colson et al. to the hybrid vehicle of Horsley et al.

because as Colson et al. suggests, the method of representing and delivering JavaBeans may be broadly applied to any automotive computing environment having a computing platform or may be modified to interface with the gateway of the invention (column 4, lines 16-32) and the modularity of the computing architecture allows for a decrease in development time and allows the system to be more easily updated by an authorized party (column 2, lines 7-35).

(10) Response to Argument

A. Claims 38 and 39 are properly rejected under 35 U.S.C. § 112, first paragraph.

Regarding claims 38 and 39, the claimed element in dispute **only** recites, inter alia, a vehicle system controller for a vehicle comprising:

“wherein each control portion may be removed from the controller without disrupting operations of the other control portions.”

With additional emphasis, the claim element only states that a control portion **may be removed** without disrupting operations of the other control portions.

Applicant does not argue the claim language, merely the concept disclosed in the specification. At issue is the actual wording of the claim language, which does not contain the feature argued for. Although the claims are interpreted in light of the

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specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

This claim element as written is not enabling, on its face is not supported by the original disclosure, and does not recite the critical or essential element to practice the invention. The critical or essential element that is lacking is installing a replacement portion, or merely the concept of replacement. The original disclosure only supports removable control portions, which may be replaced by removing a certain portion and installing a replacement portion ([0026]). All of the cited portions by the Applicant to show support for the claimed limitations comprise the concept of replacement, not just the removal.

Cited paragraph 26 of the application states: “easy **replacement** of one type of functionality for another”.

Cited paragraph 36 of the application states: “to be easily **switched or replaced**, without requiring reprogramming”.

However, **the feature of replacement is not claimed**.

The disclosure describes the control portions as separate yet integrated and wherein one controller affects the others (paragraph 0026), removing a control portion without a replacement will cause great disruption. For example, if the control portion for controlling the engine of the vehicle is removed, the other control portions will not need to be replaced with it. However, the other control portions will not operate properly because the signals and methods of controlling the engine affect how the transmission is controlled. Ultimately the vehicle will not operate at all without the essential control

portions (example: the start-up control portion, power generation control portions, etc), which can be removed but must be replaced.

B. Claims 38 and 39 are obvious under 35 U.S.C. § 103(a) over the Horsley and Colson patents.

Applicant contends the applied references Horsley in view of Colson do not teach the claimed limitation "wherein each control portion may be removed from the controller without disrupting operations of the other control portions". Applicant contends that the applied references merely suggest that components may be replaced with other components that achieve the same tack, therefore the components "must be replaced with the same functionality or else the operation of the other components will be disrupted" (Appeal Brief page 7, lines 11-13). Further Applicant contends that the distinction between the applied references and the claimed invention is "the control portions to be removed and replaced with different functionality" (lines 14-15).

The Examiner respectfully disagrees. The reference Colson teaches a modular architecture of control portions (column 1, lines 19-22) using JavaBeans.

"The present invention provides a method, apparatus, and instructions for representing the hardware and software components of an automotive platform using the JavaBeans component model for Java" (Colson: column 4, lines 21-25).

Regarding Applicant's argued distinction that the claimed invention allows for control portions to be replaced with portions of different functionality, it is noted that the feature upon which applicant relies (i.e., different functionality) is not recited in the rejected claims. The claim only recites that control portions are removed, and further

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even if interpreted as the portions are replaced, the portion of the same functionality being switched for a portion with the same functionality would not disrupt the other control portions. Colson's description is not limited to the same functionality, Colson explicitly states as an advantage of the modular JavaBeans is the support of aftermarket additions to the vehicle (column 8, lines 19-25), meaning replacing software/hardware components not originally installed when sold. Colson further suggests the combination by disclosing the advantages of using a modular architecture because the method of representing and delivering JavaBeans may be broadly applied to any automotive computing environment having a computing platform or may be modified to interface with the gateway of the invention (column 4, lines 16-32) and the modularity of the computing architecture allows for a decrease in development time and allows the system to be more easily updated by an authorized party (column 2, lines 7-35).

C. Claims 19-37

Applicant has elected not to review the rejections of claims 19-37 with this Appeal, therefore these claims are conceded.

Conclusion

The Applicant argues limitations that are not stated in the claim language. The "replacement" limitation is not in claim language under review. Applicant's arguments mischaracterize the teachings of the applied references and impose a narrower interpretation than stated in the present claims. The broadest reasonable interpretation

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of the claimed limitations is anticipated by the applied prior art of record in a supported combination.

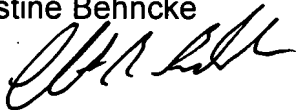
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.


For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

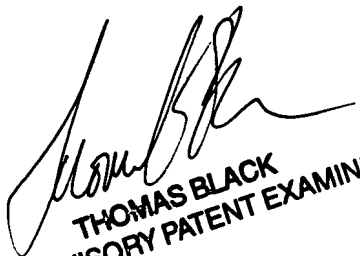
Christine Behncke



Conferees:

Thomas G. Black 

Meredith Petravick 



THOMAS BLACK
SUPERVISORY PATENT EXAMINER